A Random Walk Down West Street: Projects & Placements

Dr. Robert Smith,
Monday 14th September,
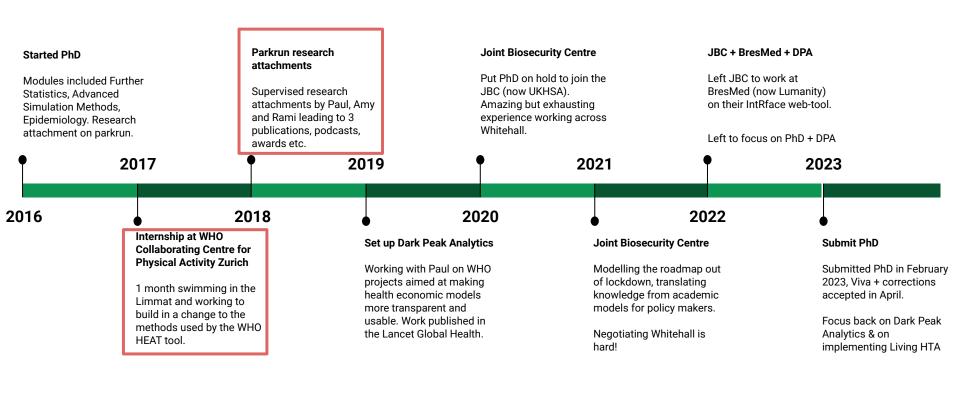The Edge, Sheffield,
School of Health and Related Research Summer School

A Random Walk Down West Street: Projects & Placements

How to make submitting a PhD as painful as possible

Started PhD

Modules included Further Statistics, Advanced Simulation Methods, Epidemiology. Research attachment on parkrun.

Parkrun research attachments

Supervised research attachments by Paul, Amy and Rami leading to 3 publications, podcasts, awards etc.

Joint Biosecurity Centre

Put PhD on hold to join the JBC (now UKHSA). Amazing but exhausting experience working across Whitehall.

JBC + BresMed + DPA

Left JBC to work at BresMed (now Lumanity) on their IntRface web-tool.

Left to focus on PhD + DPA

2017

2019

2021

2023

2016

2018

2020

2022

Internship at WHO Collaborating Centre for Physical Activity Zurich

1 month swimming in the Limmat and working to build in a change to the methods used by the WHO HEAT tool.

Set up Dark Peak Analytics

Working with Paul on WHO projects aimed at making health economic models more transparent and usable. Work published in the Lancet Global Health.

Joint Biosecurity Centre

Modelling the roadmap out of lockdown, translating knowledge from academic models for policy makers.

Negotiating Whitehall is hard!

Submit PhD

Submitted PhD in February 2023, Viva + corrections accepted in April.

Focus back on Dark Peak Analytics & on implementing Living HTA

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Focus back on Dark Peak Analytics & on implementing Living HTA

2017 - Internship at WHO HEAT team (Zurich)

Working on incrementally improving the validity of an existing health economic modelling tool. The WHO's Health Economic Assessment Tool for Walking and Cycling.

Sources: GBD (2017); OECD (2012)

2017 - Internship at WHO HEAT team (Zurich)

Health economic assessment tool (HEAT) for walking and for cycling

Methods and user guide on physical activity, air pollution, injuries and carbon impact assessments

Nick Cavill, Cavill Associates, United Kingdom → Harry Rutter, LSHTM, United Kingdom

Thomas Götschi, University of Zurich, Switzerland ← Sonja Kahlmeier, University of Zurich, Switzerland

Alberto Castro Fernandez, University of Zurich, Switzerland

Paper 1 - Lives or Life Years?

Contents lists available at ScienceDirect

Public Health

journal homepage: www.elsevier.com/locate/puhe

Original Research

The price of precision: trade-offs between usability and validity in the World Health Organization Health Economic Assessment Tool for walking and cycling

R. Smith [a, *], C. Thomas [a], H. Squires [a], T. Götschi [b, d], S. Kahlmeier [b, c], E. Goyder [a]

[a] School of Health and Related Research, University of Sheffield, Regent Court, Sheffield, S1 4DA, UK
[b] University of Zurich, Epidemiology, Biostatistics and Prevention Institute (EBPI), Switzerland
[c] Swiss Distance University of Applied Science, Department of Health, Switzerland
[d] School of Planning, Public Policy and Management, University of Oregon, Eugene, USA

ABSTRACT

Objectives: The widely used World Health Organization (WHO) Health Economic Assessment Tool (HEAT) for walking and cycling quantifies health impacts in terms of premature deaths avoided or caused as a result of changes in active transport. This article attempts to assess the effect of incorporating 'life-years' as an impact measure to increase the precision of the model and assess the effect on the tool's usability.
Study design: This article is a methods paper, using simulation to estimate the effect of a methodological change to the HEAT 4.2 physical activity module.
Methods: We use the widely used WHO HEAT for walking and cycling as a case study. HEAT currently quantifies health impacts in terms of premature deaths avoided or caused as a result of changes in active transport. We assess the effect of incorporating "duration of life gained" as an impact measure to increase the precision of the model without substantially affecting usability or increasing data requirements.
Results: Compared with the existing tool (HEAT version 4.2), which values premature deaths avoided, estimates derived by valuing life-years gained are more sensitive to the age of the population affected by an intervention, with results for older and younger age groups being markedly different between the two methods. This is likely to improve the precision of the tool, especially where it is applied to interventions that affect age groups differentially. The life-years method requires additional background data (obtained and used in this analysis) and minimal additional user inputs; however, this may also make the tool harder to explain to users.
Conclusions: Methodological improvements in the precision of widely used tools, such as the HEAT, may also inadvertently reduce their practical usability. It is therefore important to consider the overall impact on the tool's value to stakeholders and explore ways of mitigating potential reductions in usability.

Introduction

There has been an increasing awareness of the need to incorporate Health in All Policies (HiAP) to ensure that non–health government agencies work in partnership to incorporate considerations of health and well-being when developing policy.[1] One simple way in which HiAP is often facilitated is through quantitative Health Impact Assessments (HIA), simple statistical models of the world, which aim to quantify the costs and benefits of interventions.[2,3] To make HIA easier and cheaper to implement, online tools have been developed, which allow stakeholders to undertake their own HIA.[4,5]

The WHO-Europe's Health Economic Assessment Tool (HEAT 4.2) is an example of a widely used HIA tool designed specifically for a HiAP purpose,[1] allowing decision-makers in the transport sector to incorporate the health implications of walking and cycling

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E-mail address: rasmith3@sheffield.ac.uk (R. Smith).

"*I do hope that if there isn't enough oxygen for us both that the doctor won't choose between elderly me and a young parent with dependent children by flipping a coin.*"

Letter to the Times 20th January 2021

Lord Sumption, former Supreme Court judge

Paper 1 - Lives or Life Years?

Paper 1 - Lives or Life Years?

	Bart	Grandpa	Sector use
Value Statistical Life	Year: Bart < Grandpa Life: Bart = Grandpa		♥ (health)
Value Statistical Life Years	Year: Bart = Grandpa Life: Bart > Grandpa		🚗 (car)

Paper 1 - Lives or Life Years?

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Keywords:
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VSL
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Conclusions: Methodological improvements in the precision of widely used tools, such as the HEAT, may also inadvertently reduce their practical usability. It is therefore important to consider the overall impact on the tool's value to stakeholders and explore ways of mitigating potential reductions in usability.
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0033-3506/© 2021 The Author(s). Published by Elsevier Ltd on behalf of The Royal Society for Public Health. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).

The use of the HEAT in resource allocation between countries needs to be carefully considered!

Annual per capita monetary benefit of 10 mins additional weekly walking in WHO-Europe countries.

VSLY

90

60

30
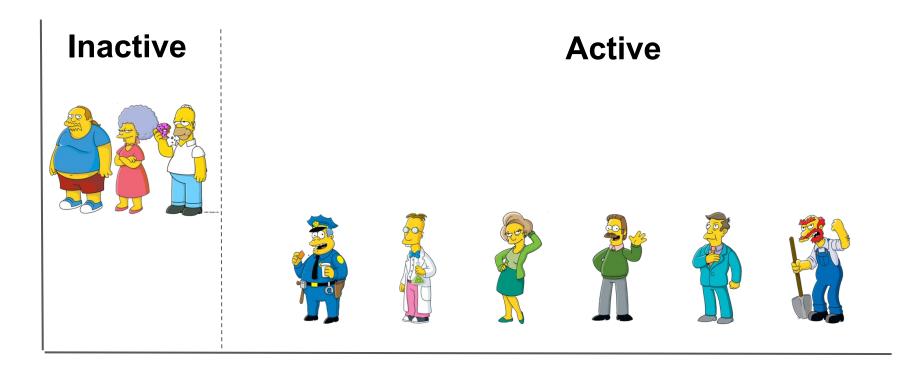
Sources: GBD (2017); OECD (2012)

Paper 2 - Straight lines or curves?

Paper 2 - Straight lines or curves?

Inactive

Active

0   600   10,000

Paper 2 - Straight lines or curves?

Inactive

Active

0   600   10,000
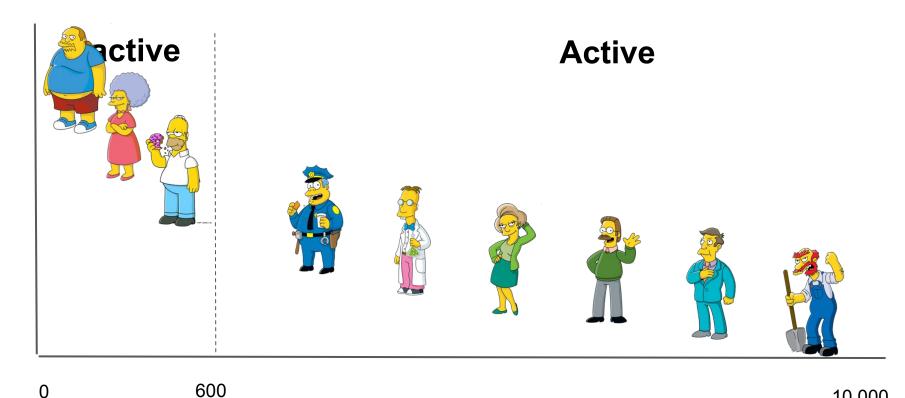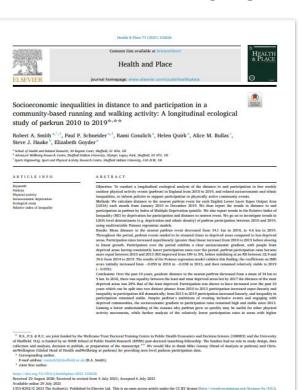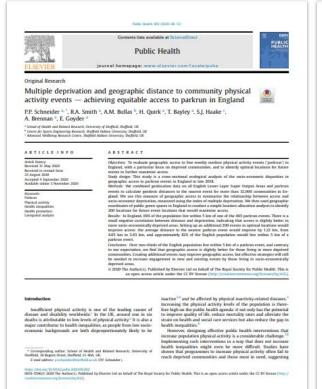
2018 - Parkrun research attachments
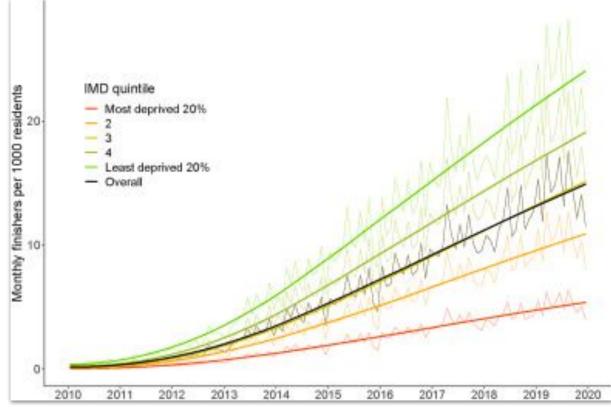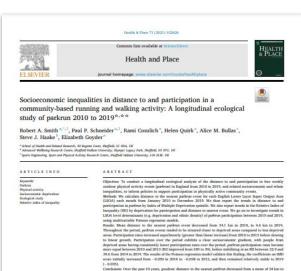
Time series analysis of parkrun participation

Time series analysis of parkrun access

Replication and extension to 2023

Openfest GitHub workshop

Workshop on GitHub for academic collaboration

Monday 4th September, 10.00-12.00, in person

Led by Robert Smith (School of Health and Related Research, University of Sheffield)

This workshop for researchers at the University of Sheffield and Sheffield Hallam University will provide a straightforward look at how GitHub can enhance academic collaboration, and a practical introduction to using GitHub and other tools in academic settings. The workshop will cover:

- The benefits of GitHub for academic collaboration

- Setting up RStudio with Git and GitHub

- How to collaborate with colleagues on projects in script-based programming languages (e.g. R)

- Where to find more information - online resources and courses

Note: Delegates will require R and RStudio (**https://posit.co/download/rstudio-desktop/**) and Git (**https://git-scm.com/downloads**) to be installed on their laptops before the session if they want to follow the examples in real time.

Refreshments will be provided.

Register for the event (in-person attendance) here.

https://www.eventbrite.co.uk/e/openfest-2023-workshop-on-github-for-academic-collaboration-tickets-657439508267

How to make submitting a PhD as painful as possible … but do a lot of cool stuff

Talks: https://github.com/RobertASmith/talks

Journal Publications: Google Scholar

CV: CV

Open Source Code: https://github.com/RobertASmith

Dark Peak Analytics: https://darkpeakanalytics.com/

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